U.S. Department of the Interior
Bureau of Land Management
White River Field Office
73544 Hwy 64
Meeker, CO 81641

ENVIRONMENTAL ASSESSMENT

NUMBER: CO-110-2005-202-EA

CASEFILE/PROJECT NUMBER (optional): COC60737 (32-4-298), COC60730 (31-30-198)

PROJECT NAME: Ryan Gulch Unit (RGU) 32-4-298 and 31-30-198

LEGAL DESCRIPTION: T. 2 S., R. 98 W., Sec. 4, SE¼NE¼, 6th P.M. (32-4-298)
T. 1 S., R. 98 W., Sec. 30, NW¼NE¼, 6th P.M. (31-30-198)

APPLICANT: Williams Production RMT Company

ISSUES AND CONCERNS (optional): A separate right of way (ROW) application for the pipeline route for each location will be submitted by Bargath, Inc. The onsite for each location did not include a pipeline ROW, and a pipeline route was not discussed. The proposed access road to location RGU 32-4-298 included paralleling approximately 892 feet of fence leased by Colorado State University (CSU) for their long term re-vegetation oil shale study plots. Fence maintenance issues would most likely arise because of the proposed route for the access road. Consequently, because of possible road maintenance issues, Williams has moved location RGU 32-4-298 approximately 1,200 feet to the northeast of the proposed location to avoid these possible impacts.

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:

Background/Introduction: Applications have been received to construct two well pads and access roads to each location. The elevation at the proposed location for well RGU 32-4-298 is 6,627 feet, and the elevation at the proposed location for well RGU 31-30-198 is 6,510 feet. Well density at the proposed location for well RGU 32-4-298 and RGU 31-30-198 is <1 producing well per square mile. Road density equals approximately 2.52 miles of road per square mile for locations RGU 32-4-298 and RGU 31-30-198, respectively. The proposed action for location RGU 32-4-298 will occur in the Stake Springs Gulch watershed, while the proposed action for location RGU 31-30-198 will occur in the Corral Gulch watershed.

Proposed Action: The proposed action includes constructing two well pads with dimensions of 250 x 400 feet (2.30 acres) for well RGU 31-30-198 and 317 x 400 feet (2.91 acres) for RGU 32-4-298. Total area disturbed including overburden to construct the well pads will be approximately 5.61 acres. In addition, the applicant proposes to construct 35 x 160 feet (0.13

acres) of new road to access location RGU 32-4-298, and 35 x 3,629 feet (2.92 acres) of new road to access location RGU 31-30-198. Total area disturbed to accommodate both well pads and access roads will be approximately 8.66 acres.

Plans for improvement and/or maintenance of existing roads are to maintain in as good or better conditions than at present. Access roads and surface disturbing activities will conform to standards outlined in the Oil and Gas Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development "Gold Book" prepared by the Bureau of Land Management (BLM) and the United States Department of Agriculture (USDA) Forest Service (FS) Fourth Edition 2005.

Produced waste water could be confined to the pit for a period of 90 days after initial production. During the 90 day period the required waste analysis will be submitted for the Authorized Officer's approval, pursuant to Onshore Oil and Gas Order No. 7 (NTL-2B). A permanent steel tank will be installed in the ground next to the production facilities to contain any produced water for the duration of the well.

Water based reserve pit fluids will be backfilled within one year of construction or by the end of the succeeding summer to allow for evaporation of fluids unless an alternative method of disposal is approved. The backfilling of the reserve pit will be done in such a manner that the mud and associated solids will be confined to the pit and not squeezed out and incorporated into the surface materials. There will be a minimum of three feet of cover (overburden) on the pit. All remaining cutting will be solidified and buried in place, or disposed of in an approved manner. The stockpiled ground cover will be evenly distributed over the disturbed areas. The recommended seed mix to be used on all disturbed areas will be determined by the White River Field Office (WRFO). The dirt contractor will be provided with an approved copy of the surface use plan.

Chemical pesticides or any other control agent which represents a potential soil, air or water pollutant will not be utilized for any purpose on public lands without express written authorization from the Authorized Officer (AO) of the BLM.

The Operator or his contractor will notify the BLM, WRFO, (970) 878-3800, forty-eight (48) hours before starting reclamation work that involves earth-moving equipment and upon completion of restoration measures.

The anticipated start date for location RGU 32-4-298 and RGU 31-30-198 is 1 January 2006. The anticipated duration for construction related activities is 45-60 days which includes drilling and completion.

No Action Alternative: Under the no action alternative, the application would be denied and the well pads and access roads would not be constructed**.**

NEED FOR THE ACTION: To respond to request by applicant to exercise lease rights and develop potential hydrocarbon reserves.

PLAN CONFORMANCE REVIEW: The Proposed Action is subject to and has been reviewed for conformance with the following plan (43 CFR 1610.5, BLM 1617.3):

Name of Plan: White River Record of Decision and Approved Resource Management Plan (ROD/RMP).

Date Approved: July 1, 1997

Decision Number/Page: Pages 2-5 thru 2-6

Decision Language: "Make federal oil and gas resources available for leasing and development in a manner that provides reasonable protection for other resource values."

AFFECTED ENVIRONMENT / ENVIRONMENTAL CONSEQUENCES / MITIGATION MEASURES:

STANDARDS FOR PUBLIC LAND HEALTH: In January 1997, Colorado Bureau of Land Management (BLM) approved the Standards for Public Land Health. These standards cover upland soils, riparian systems, plant and animal communities, threatened and endangered species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. Because a standard exists for these five categories, a finding must be made for each of them in an environmental analysis. These findings are located in specific elements listed below:

CRITICAL ELEMENTS

AIR QUALITY

Affected Environment: The proposed access roads and well pads are not located within a thirty mile radius of any special designation air sheds or non-attainment areas.

Environmental Consequences of the Proposed Action: Temporary reductions in vegetal cover resulting from construction activities will leave soils temporarily exposed to eolian processes. During dry and windy periods, air quality may be compromised due to increased levels of fugitive dust originating from the exposed construction area. Exhaust produced from production facilities and heavy equipment associated with the proposed actions combined with the increasing number of fluid mining activities in the Piceance Creek basin will have cumulative impacts detrimental to local air quality. Overall, the proposed action by itself should not greatly compromise National Ambient Air Quality Standards (NAAQS) on an hourly or daily basis.

Environmental Consequences of the No Action Alternative: None

Mitigation: The operator will be responsible for complying with all local, state, and federal air quality regulations as well as providing documentation to the BLM that they have

done so. To minimize production of fugitive dust from access roads and well pads, vehicle speeds must not exceed 15 mph *or* dust plume must not be visible at appropriate designated speeds for road design. The application of a dust suppressant (e.g. water or "Dust Stop") will be required during dry periods when dust plumes are visible at speeds less than or equal to 15 mph. Surfacing the roadway with gravels will also help mitigate fugitive dust production.

All soils stockpiled for extended periods of time (e.g. stockpiles associated with pad construction) will be covered with a biodegradable fabric (e.g. jute netting) and seeded with the appropriate seed mixture as outlined in the vegetation section of this document. Stockpiled soils associated with road construction will be wetted to mitigate fugitive dust production.

CULTURAL RESOURCES

Affected Environment: RUG 32-4-298 well pad and access road: The proposed well pad and access road has been inventoried at the Class III (100 % pedestrian) level (Conner et. al. 2005, Compliance Dated 12/13/2005) with no new cultural resources identified at the inventoried site. Well RGU 31-30-198 pad and access road: The proposed well pad and access road has been inventoried at the Class III (100% pedestrian) level (Conner 2005, Compliance Dated 6/17/2005) with no cultural resources identified at the inventoried site.

Environmental Consequences of the Proposed Action: Well RGU 32-4-298 pad and access road: The proposed well pad and access road will not impact any known cultural resources. Well RGU 31-30-198 pad and access road: The proposed well pad and access road will not impact any known cultural resources.

Environmental Consequences of the No Action Alternative: There would be no new impacts to cultural resources under the No action alternative.

Mitigation: RGU 32-4-298 and RGU 31-30-198 well pads and access roads: 1. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear eligible for the National Register of Historic Places
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary)
- a timeframe for the AO to complete an expedited review under 36 CFR 800-11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever

recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

2. Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the AO, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

INVASIVE, NON-NATIVE SPECIES

Affected Environment: There are no known noxious weeds at any of the proposed drill sites or access roads. The invasive alien cheatgrass (*Bromus tectorum*) occurs throughout the project area, primarily on areas of unrevegetated earthen disturbance associated with roads.

Environmental Consequences of the Proposed Action: The proposed action will create about 6.5 acres of earthen disturbance, which if it is not revegetated with desirable species and /or treated with herbicides to eradicate cheatgrass, will be invaded and dominated by cheatgrass, increasing the potential for fire and the consequent further proliferation of cheatgrass. The resulting proliferation of cheatgrass will perpetuate a downward cycle of environmental degradation that will be largely irreversible.

Environmental Consequences of the No Action Alternative: There will be no change from the present situation.

Mitigation: Promptly revegetate all disturbed areas not necessary for production including pad and access road cut and fill slopes with Native Seed mix #2 (see Vegetation). The operator will be required to monitor the project area for a minimum of three years post disturbance and eradicate all noxious and invasive species which occur on site using materials and methods approved in advance by the Authorized Officer.

MIGRATORY BIRDS

Affected Environment: Regarding locations RGU 32-4-298 and RGU 31-30-198, an array of migratory birds fulfill nesting functions in the project area's predominantly pinyon-juniper woodlands and Wyoming big sagebrush shrublands from late May through early August. Species associated with these woodland communities are typical and widely represented in the Resource Area and region. Those bird populations identified by the Rocky Mountain Bird Observatory Partners in Flight program as having higher conservation interest include Brewer's sparrow (which occur in sagebrush-dominated areas), and gray flycatcher, pinyon jay, juniper titmouse, black-throated gray warbler, and violet-green swallow, which occur in pinion-juniper

dominated woodlands. The species identified are well distributed at appropriate densities in the White River Resource Area's extensive woodland and shrubland habitats.

Environmental Consequences of the Proposed Action: It is anticipated that the pad and access road for locations RGU 32-4-298 and RGU 31-30-198 would be constructed in January 2005, and drilling operations would begin in mid to late January. Consequently, heavy equipment use and high levels of activity associated with site construction would occur outside the migratory bird nesting season and would have no potential to disrupt nesting activities. This temporary effect would have no discernible influence on the abundance of local breeding bird populations nor the viability of any breeding bird population affiliated with the pinyon-juniper or sagebrush type at any landscape scale.

The development of reserve pits in the project area may be expected to attract waterfowl and other migratory birds for purposes of resting, foraging, or as a source of free water. It has recently been brought to the WRFO attention that migratory waterfowl (i.e., teal and gadwall) have contacted oil-based drilling fluids stored in reserve pits during or after completion operations and are suffering mortality in violation of the Migratory Bird Treaty Act. The extent and nature of the problem is not well defined, but is being actively investigated by the federal agencies and the companies. Until the vectors of mortality are better understood, management measures must be conservative and relegated to preventing bird contact with produced water and drilling and completion fluids that may pose a problem (e.g., acute or chronic toxicity, compromised insulation).

Environmental Consequences of the No Action Alternative: There would be no affect on migratory birds or their habitats under the no action alternative.

Mitigation: It will be the responsibility of the operator to prevent use by migratory birds of reserve pits that store or are expected to store fluids which may pose a risk to such birds (e.g., migratory waterfowl, shorebirds, wading birds and raptors) during completion and after completion activities have ceased. Methods may include netting, the use of bird-balls, or other alternative methods that effectively prevent use and that meet BLM approval. It will be the responsibility of the operator to notify the BLM of the method that will be used to prevent use two weeks prior to when completion activities are expected to begin. The BLM approved method will be applied within 24 hours after completion activities have begun. All lethal and non-lethal events that involve migratory birds will be reported to the Petroleum Engineer Technician immediately.

THREATENED, ENDANGERED, AND SENSITIVE ANIMAL SPECIES (includes a finding on Standard 4)

Affected Environment: There are no threatened or endangered animals known to inhabit or derive important benefit from the project locales. A small number of northern sage grouse, a BLM sensitive species and recently petitioned for listing, historically occupied 84 Mesa, a large low-elevation sagebrush park. No birds are known to have occupied the mesa since about the

mid-1980's, but these habitats remain available for natural colonization or species recovery actions.

Environmental Consequences of the Proposed Action: The proposed action would have no conceivable influence on special status animals or associated habitat.

Environmental Consequences of the No Action Alternative: The no action alternative would have no conceivable influence on special status animals or associated habitat.

Mitigation: None

Finding on the Public Land Health Standard for Threatened & Endangered species: The proposed action would have no effective influence on populations or habitat associated with special status species.

WASTES, HAZARDOUS OR SOLID

Affected Environment: There are no known hazardous or other solid wastes on the subject lands. No hazardous materials are known to have been used, stored or disposed of at sites included in the project area.

Environmental Consequences of the Proposed Action: No listed or extremely hazardous materials in excess of threshold quantities are proposed for use in this project. While commercial preparations of fuels and lubricants proposed for use may contain some hazardous constituents, they would be stored, used and transported in a manner consistent with applicable laws, and the generation of hazardous wastes would not be anticipated. Solid wastes would be properly disposed of.

Environmental Consequences of the No Action Alternative: No hazardous or other solid wastes would be generated under the no-action alternative.

Mitigation: The applicant shall be required to collect and properly dispose of any solid wastes generated by the proposed actions.

WATER QUALITY, SURFACE AND GROUND (includes a finding on Standard 5)

Affected Environment: Surface Water: The proposed actions are located within the Corral Gulch, Stake Springs, and Ryan Gulch, catchment areas. Corral Gulch and Stake Springs are both tributaries to Yellow Creek (tributary to the White River) and are situated in stream segment 13b of the White River Basin. Ryan Gulch is a tributary to Piceance Creek (tributary to the White River) and can be found in stream segment 16 of the White River Basin. A review of the Colorado's 1989 Nonpoint Source Assessment Report (plus updates), the 305(b) report, the 303(d) list, the White River ROD/RMP, and the Unified Watershed Assessment was done to see if any water quality concerns have been identified. It should be noted that the White River from

Piceance Creek to Douglas Creek has been listed on the states monitoring and evaluation list (M&E list) as being sediment impaired. In addition, the White River ROD/RMP has identified the main stem of Yellow Creek as a perennial stream NOT meeting water quality standards for suspended sediment and salinity.

The State has classified all of the affected stream segments as "Use Protected". Stream segments 13b and 16 have been further designated by the state as being beneficial for the following uses: Warm Aquatic Life 2, Recreation 2, and Agriculture. Stream segment 19 has been further designated as beneficial for the following uses: Cold Aquatic Life 2, Recreation 1b, and Agriculture. The antidegredation review requirements in the Antidegredation Rule are not applicable to waters designated use-protected. For those waters, only the protection specified in each reach will apply. For stream segments 13b and 16, minimum standards for four parameters have been listed. These parameters are: dissolved oxygen = 5.0 mg/l, pH = 6.5 - 9.0, Fecal Coliform = 2000/100 ml, and 630/100 ml E. coli.

Ground Water: A review of the US Geological Survey Ground Water Atlas of the United States (HA 730-C) was done to assess ground water resources at the location of the proposed action. The shallowest aquifer underlying the proposed action is the Uinta-Animas aquifer. The Uinta-Animas aquifer at this location consists of the Uinta Formation and the Parachute Creek member of the Green River Formation. During the drilling process it is likely that deep ground water from the Fort Union Formation and Mesaverde Group also be encountered.

Environmental Consequences of the Proposed Action: Construction of the access roads and well pads will result in temporary exposure of soils to erosional processes. Heavy equipment used during construction combined with the removal of ground cover will increase erosive potential due to runoff (overland flows) and raindrop impact during storm events.

Failure to stabilize disturbed areas with appropriate mitigation measures will result in increased sedimentation to lower reaches of the affected watersheds deteriorating water quality.

Local ground water may be contaminated if a spill results or pit contents are allowed to infiltrate soils. Adverse impacts on deeper ground water are possible as a result of cross aquifer contamination due to drilling.

Environmental Consequences of the No Action Alternative: None

Mitigation: The operator will be responsible for complying with all local, state, and federal water quality regulations as well as providing documentation to the BLM that they have done so.

All road and well pad construction must strictly adhere to “Gold Book” surface operating standards for oil and gas exploration and development. A copy of the “Gold Book” can be obtained at the WRFO.

Corrugated Metal Pipes (CMPs) are not recommended on slopes less than 10% and will NOT be used as drainage relief structures for stream crossings/gullies or to drain inside drain ditches on

slopes less than 3%. Based on the nature of the affected soils, drain dips will be utilized in place of CMPs in these locations.

Energy dissipaters such as large gravels/small cobbles will be used at culvert and drainage dip outlets to minimize additional erosion. To mitigate water being channelized down the roadway, all activity must stop when soils or road surfaces become saturated to a depth of three inches. Mud blading will be prohibited in attempts to reduce further soil displacement. Any upgrades or damage to the existing ROW will be upgraded or repaired at the expense of the operator.

To mitigate contamination of local ground water, environmentally unfriendly substances (e.g. diesel) must not be allowed to infiltrate soils. The use of impermeable matting under equipment is suggested to intercept such contaminants prior to contacting soils.

Furthermore, all pits must be lined and all wastes associated with construction and drilling will be properly treated and disposed of. Finally, aquifers beneficial for human consumption and livestock encountered during the drilling process must be properly isolated to reduce potential for contamination.

Finding on the Public Land Health Standard for water quality: Stream segment 16 of the White River Basin currently meet water quality standards set by the state. Following proper mitigation measures, water quality in this stream segments will be unaffected.

Yellow Creek (segment 13b) has been identified as a perennial stream NOT meeting water quality standards set by the state. However, with suggested mitigation water quality in Yellow Creek will not be deteriorated as a result of the proposed actions.

WETLANDS AND RIPARIAN ZONES (includes a finding on Standard 2)

Affected Environment: There are no wetlands or riparian communities directly or involved or potentially influenced by the proposed action.

Environmental Consequences of the Proposed Action: The proposed action would have no conceivable influence on wetlands or riparian areas.

Environmental Consequences of the No Action Alternative: There would be no conceivable influence on wetlands or riparian communities under the no action alternative.

Mitigation: None

Finding on the Public Land Health Standard for riparian systems: This project would have no conceivable potential for influencing wetlands or riparian habitats addressed in the Standards.

CRITICAL ELEMENTS NOT PRESENT OR NOT AFFECTED:

No ACEC's, flood plains, prime and unique farmlands, Wilderness, or Wild and Scenic Rivers, threatened, endangered or sensitive plants exist within the area affected by the proposed action. For threatened, endangered and sensitive plant species Public Land Health Standard is not applicable since neither the proposed nor the no-action alternative would have any influence on populations of, or habitats potentially occupied by, special status plants. There are also no Native American religious or environmental justice concerns associated with the proposed action.

NON-CRITICAL ELEMENTS

The following elements **must** be addressed due to the involvement of Standards for Public Land Health:

SOILS (includes a finding on Standard 1)

Affected Environment: The following data is a product of an order III soil survey conducted by the Natural Resource Conservation Service (NRCS). The accompanying table highlights important soil characteristics. A complete summary of this information can be found at the White River Field Office.

Soil Number	Soil Name	Slope	Ecological site	Salinity	Run Off	Erosion Potential	Bedrock
33	Forelle loam	3-8%	Rolling Loam	<2	Medium	Moderate	>60
41	Havre loam	0-4%	Foothill Swale	<4	Medium	Slight	>60
75	Rentsac-Piceance complex	2-30%	PJ woodland/Rolling Loam	<2	Medium	Moderate to high	10-20
91	Torriorthents-Rock Outcrop complex	15-90%	Stoney Foothills		Rapid	Very high	10-20
104	Yamac Loam	2-15%	Rolling Loam	<2	Medium	Slight to moderate	>60

33-Forelle loam (3 to 8 percent slopes) is a deep, well drained soil found on terraces and uplands. It formed in eolian and alluvial material derived dominantly from sedimentary rock. The native vegetation is mainly low shrubs and grasses. Typically, the surface layer is pale brown loam 4 inches thick. The upper 12 inches of the subsoil is yellowish brown clay loam, and the lower 5 inches is light yellowish brown loam. The substratum to a depth of 60 inches or more is very pale brown loam. Permeability of this Forelle soil is moderate. Available water capacity is high. Effective rooting depth is 60 inches or more. Runoff is medium, and the hazard of water erosion is moderate.

41-Havre loam (0 to 4 percent slopes) is a deep, well drained soil located on flood plains and low stream terraces. It formed in calcareous alluvium. The native vegetation is mainly low shrubs and grasses. Typically, the surface layer is light brownish gray loam 21 inches thick. The upper 19 inches of the underlying material is stratified, light gray loam and silty clay loam, and the

lower part to a depth of 60 inches or more is stratified loam and sandy loam. In some areas the surface layer is clay loam of fine sandy loam. Permeability of the Havre soil is moderate. Available water capacity is high. Effective rooting depth is 60 inches or more. Runoff is medium, and the hazard of water erosion is slight. Small areas of this soil are subject to brief periods of flash flooding late in the spring and in summer.

75-Rentsac-Piceance complex (2 to 30 percent slopes) is located on uplands, broad ridges, and foothills. The native vegetation is mainly sparse stands of pinyon and juniper and open areas of sagebrush. The Rentsac soil is shallow and well drained. It formed in residuum derived dominantly from sandstone. Typically, the surface layer is grayish brown channery loam about 5 inches thick. The next layer is brown, strongly calcareous very channery loam about 4 inches thick. The underlying material is very pale brown extremely flaggy light loam 7 inches thick. Hard sandstone is at a depth of 16 inches. Depth to sandstone ranges from 10 to 20 inches. In some areas the surface layer is flaggy loam. Permeability of the Rentsac soil is moderately rapid. Available water capacity is very low. Effective rooting depth is 10 to 20 inches. Runoff is medium, and the hazard of water erosion is moderate to high.

The Piceance soil is moderately deep and well drained. It formed in eolian material and colluvium derived dominantly from sandstone. Typically, the surface layer is brown fine sandy loam 4 inches thick. The upper 5 inches of the subsoil is brown loam, and the lower 13 inches is light yellowish brown loam. The substratum is very pale brown channery light loam 8 inches thick. Hard sandstone is at a depth of 30 inches. Depth to sandstone or hard shale ranges from 20 to 40 inches. In some areas the surface layer is loam or sandy loam. Permeability of the Piceance soil is moderate. Available water capacity is low. Effective rooting depth is 20 to 40 inches. Runoff is slow to medium, and the hazard of water erosion is slight to moderate.

91-Torriorthents-Rock outcrop complex (15 to 90 percent slopes) is found in extremely rough and eroded areas on mountains, hills, ridges, and canyonsides. The native vegetation is mainly sparse shrubs and grasses with some pinyon and juniper trees. Torriorthents are very shallow to moderately deep and are will drained and somewhat excessively drained. They formed in residuum and colluvium derived dominantly from sandstone, shale, limestone, and siltstone. Torriorthents are highly variable. No single profile of Torriorthents is typical, but one commonly observed in the survey area has a surface layer of pale brown channery loam about 3 inches thick. The underlying material is very pale brown channery loam, very channery loam, or fine sandy loam about 13 inches thick. Shale or sandstone is at a depth of 16 inches. Torriorthents are calcareous throughout. In some areas the surface layer is stony or flaggy. Permeability of the Torriorthents is moderate. Available water capacity is very low. Effective rooting depth is 10 to 20 inches. Runoff is very rapid, and the hazard of water erosion is very high.

104-Yamac loam (2 to 15 percent slopes) is a deep, well drained soil found on rolling uplands, terraces, and fans. It formed in eolian and alluvial material. The native vegetation is mainly low shrubs and grasses. Typically, the surface layer is brown loam 4 inches thick. The upper 8 inches of the subsoil is brown loam, and the lower 10 inches is highly calcareous loam. The upper 26 inches of the substratum is very pale brown loam, and the lower part to a depth of 60 inches or more is pale brown loam. Permeability of this Yamac soil is moderate. Available

water capacity is moderate to high. Effective rooting depth is 60 inches or more. Runoff is medium, and the hazard of water erosion is slight to moderate.

Environmental Consequences of the Proposed Action: Construction of the well pads and the access roads will result in significant losses in vegetation and ground cover. Improper drainage from the project areas will increase potential for overland flows and accelerate erosional processes. Increased truck traffic will elevate soil compaction decreasing infiltration rates which in turn will also increase potential for erosive overland flows.

Leaks or spills of environmentally unfriendly substances (e.g. diesel or deep ground water) on or near the pad may contaminate soils hindering revegetation efforts. Soils unable to support a healthy plant community will be less cohesive (due to lack of root structure) and more vulnerable to erosional processes.

Most of the encountered soils are calcareous in nature. If drainage relief structures are not properly constructed and maintained, piping and mass wasting may occur due to the dissolution of calcium carbonate.

Environmental Consequences of the No Action Alternative: None

Mitigation: All road and well pad construction must strictly adhere to "Gold Book" surface operating standards for oil and gas exploration and development. A copy of the "Gold Book" can be obtained at the WRFO.

Energy dissipaters such as large gravels/small cobbles will be used at culvert and drainage dip outlets to minimize additional erosion. To mitigate water being channelized down the roadway, all activity must stop when soils or road surfaces become saturated to a depth of three inches. Mud blading will be prohibited in attempts to reduce further soil displacement. Any upgrades or damage to the existing ROW will be upgraded or repaired at the expense of the operator. In addition, to mitigate surface erosion at well pads, silt fences will be utilized down gradient of stockpiled soils on slopes greater than 5 percent.

To mitigate contamination of soils, environmentally unfriendly substances (e.g. diesel) must not be allowed to contact soils. The use of impermeable matting under equipment is suggested to intercept such contaminants prior to contacting soils.

Complete reclamation will follow abandonment of well pads and access roads. Access roads and well pads will be recontoured, flow deflectors and sediment traps (woody debris) will be evenly redistributed over all disturbed areas, and 100% of disturbed surfaces will be revegetated with the appropriate seed mixture as outlined in the vegetation section of this document.

Finding on the Public Land Health Standard for upland soils: At the present time, soils in the vicinity of the proposed actions exhibit infiltration and permeability rates that are appropriate to soil type, landform, climate, and geologic processes. The proposed actions will decrease infiltration and permeability rates due to soil compaction and loss of vegetal cover.

However, following suggested mitigation soil health will not be changed from current conditions.

VEGETATION (includes a finding on Standard 3)

Affected Environment: Both of the proposed locations occur in large Wyoming big sagebrush parks. Understory species include needle and thread, western wheatgrass and mutton bluegrass. The corresponding ecological site for both locations is rolling loam. Both sites are in a mid seral state.

Environmental Consequences of the Proposed Action: The primary impact of the proposed action upon vegetation will be from physical destruction of vegetation on about 6.5 acres. If operations occur from April 15 through November 15, truck traffic on access roads will create a large amount of airborne dust which will be deposited on vegetation adjacent to roads. These deposits will impair plant function and also limit/prevent use of the vegetation by native and domestic herbivores.

Environmental Consequences of the No Action Alternative: There will be no change from the present situation.

Mitigation: Promptly revegetate all disturbed areas not necessary for production including pad and access road cut and fill slopes with Native Seed mix #2:

Seed Mix #	Species (Variety)	Lbs. PLS per Acre	Ecological Sites
2	Western wheatgrass (Rosanna) Indian ricegrass (Nezpar) Bluebunch wheatgrass (Whitmar) Thickspike wheatgrass (Critana) Green needlegrass (Lodorm) Globemallow	2 1 2 2 1 0.5	Deep Loam, Loamy 10"-14", Loamy Breaks, Loamy Slopes, Rolling Loam, Valley Bench

Seed mixture rates are Pure Live Seed (PLS) pounds per acre. Drill seeding is the recommended method of application. If seed is broadcast, the seeding rate will be doubled.

The operator will be required to monitor the project area for a minimum of three years post disturbance and eradicate all noxious and invasive species which occur on site using materials and methods approved in advance by the Authorized Officer.

If construction/development occurs between April 15 and November 15, the operator will be required to water or surface access roads to reduce airborne dust and damage to roadside vegetation communities.

Revegetation measures will commence immediately after construction/recontouring. In no case will revegetation be postponed until the following year.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Wildlife, Aquatic and Wildlife, Terrestrial)*:* Plant communities in the area of both proposed

locations currently meet the Standard and are expected to continue to following implementation of the project.

WILDLIFE, AQUATIC (includes a finding on Standard 3)

Affected Environment: There are no aquatic habitats directly involved or potentially affected by the proposed action.

Environmental Consequences of the Proposed Action: The proposed action would have no conceivable influence on aquatic wildlife or habitats.

Environmental Consequences of the No Action Alternative: The no-action alternative would not have any conceivable influence on aquatic wildlife or habitats.

Mitigation: None

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Terrestrial): This project would have no conceivable potential for influencing aquatic wildlife or habitats addressed in the Standards.

WILDLIFE, TERRESTRIAL (includes a finding on Standard 3)

Affected Environment: These pinyon-juniper/mixed shrub habitats are used by big game from October through May as general winter ranges. Neither location occurs in big game severe winter habitat.

Raptor surveys were not conducted at either site as there is no suitable nesting habitat within 1000 feet of either location.

Nongame bird abundance and composition associated with the project areas' woodland and shrubland habitats are considered representative and complete with no obvious deficiencies in composition. Small mammal populations and distribution are poorly documented; however, the species potentially occurring on these sites are widely distributed throughout the State and the Great Basin and Rocky Mountain regions. All of these upland species display broad ecological tolerance and are documented from habitats ranging from foothill to alpine sites. No narrowly distributed or highly specialized species or subspecific populations are known to occur in the Piceance Basin.

Environmental Consequences of the Proposed Action: Due to their location relative to existing forms of disturbance (i.e., county roads) or use of existing disturbance, the proposed action would have little influence on the extent or availability of big game forage or cover resources. The behavioral effects of oil and gas activity on deer during the late winter and early spring period (i.e., avoidance and disuse of available forage, elevated energetic drain) would be

most pronounced on severe winter range. Because neither location occurs in severe winter habitat, no timing limitation will be applied.

Environmental Consequences of the No Action Alternative: No immediate action would be authorized that would involve the adverse modification of terrestrial wildlife habitats. Alternate pad locations may be increasingly likely to be situated more distant from established roads, thereby involving more extensive access needs and more extensive direct and indirect involvement of functional habitat.

Mitigation: None

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Aquatic): The project areas meet the public land health standards for terrestrial animal communities. As conditioned, the proposed action would have negligible long term influence on the utility or function of big game, raptor, or nongame habitats surrounding these wells. In an overall context, lands affected by the no-action or proposed action, as conditioned, would continue to meet the land health standard for terrestrial animals.

OTHER NON-CRITICAL ELEMENTS: For the following elements, only those brought forward for analysis will be addressed further.

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Access and Transportation			X
Cadastral Survey	X		
Fire Management	X		
Forest Management	X		
Geology and Minerals			X
Hydrology/Water Rights		X	
Law Enforcement		X	
Noise		X	
Paleontology			X
Rangeland Management		X	
Realty Authorizations			X
Recreation			X
Socio-Economics		X	
Visual Resources			X
Wild Horses	X		

ACCESS AND TRANSPORTATION

Affected Environment: Rio Blanco County roads 24 and 68 will affected by proposed action. No BLM roads are involved.

Environmental Consequences of the Proposed Action: An increase in traffic could be expected during the life of these wells. The percentage increase is not known but many of these roads see very traffic most of the year (less than 1 vehicle/day). It could be suggested that roads surfaces may be impacted by heavy construction traffic associated with oil and gas activities.

Environmental Consequences of the No Action Alternative: None.

Mitigation: None.

GEOLOGY AND MINERALS

Affected Environment: William's well RGU 31-30-198 is located in Natural Soda's Federal sodium lease COC-0119985 approximately 4 miles west of Natural Soda's solution mining well field and water monitoring wells. Well RGU 32-4-298 is located in American Alkali's Federal sodium lease COC-0120057 approximately 2.5 miles west and south of Natural Soda's solution mining well field and water monitoring wells. Both wells are in the area identified in the RMP as available for multi mineral leasing. The surface geologic formation of the well locations is Uinta and Williams's targeted zone is located in the lower Mesaverde/upper Mancos. During drilling potential water, oil shale, sodium, and gas zones will be encountered from surface to the targeted zone. Fresh water aquifers that will be encountered during drilling are the Perched in the Uinta, the A-groove, B-groove and the Dissolution Surface in the Green River formation. According to the approved mine plan Natural Soda is required by the EPA, BLM, and Colorado Department of Natural Resources Division of Minerals and Geology to monitor the water quality and hydrostatic head of each of these aquifers. This area is also known for difficulties in drilling and cementing.

Environmental Consequences of the Proposed Action: Drilling and completion of this well may adversely affect the aquifers and the monitoring wells if there is loss of circulation or problems cementing the casing. However, the approved cementing and completion procedure of the proposed action isolates the formations and will prevent the migration of gas, water, and oil between formations. Development of these wells will deplete the hydrocarbon resources in the targeted formation.

Environmental Consequences of the No Action Alternative: None

Mitigation: The sodium lease holders shall be notified by the operator of the plans to drill these wells prior to the commencement of surface disturbing act ivies.

To prove ownership of any aquifer contamination or influence a fluorescent dye other than Rhodamin WT, should be added to all drilling fluids used through the Green River formation.

Drilling fluid should be sampled and analyzed for pH and conductivity every 100 feet from surface to 100 feet below the Dissolution surface. Williams should document fluid losses during drilling operations through the Green River Formation. The analysis of the fluid samples and fluid loss documentation will be supplied to the BLM Meeker office within 30 days of drilling.

PALEONTOLOGY

Affected Environment: RGU 32-4-298 well pad and access road: The proposed well pad and access road are located in an area generally mapped as the Uinta Formation (Tweto 1979) , which the BLM has classified as a Condition 1 Formation, meaning it is known to produce scientifically important fossil resources.

RGU 31-30-198 well pad and access road: The proposed well pad and access road are located in an area generally mapped as the Uinta Formation (Tweto 1979), which the BLM has classified as a Condition 1 Formation, meaning it is known to produce scientifically important fossil resources.

Environmental Consequences of the Proposed Action: RGU 32-4-298 well pad and access road: If it should become necessary to excavate into the underlying rock formation to construct the road, level the well pad or excavate the reserve/blooie pit there is a potential to impact scientifically important fossil resources.

RGU 31-30-198 well pad and access road: If it should become necessary to excavate into the underlying rock formation to construct the road, level the well pad or excavate the reserve/blooie pit there is a potential to impact scientifically important fossil resources.

Environmental Consequences of the No Action Alternative: There would be no new impacts to fossil resources under the No Action Alternative.

Mitigation: For RGU 32-4-298 well pad and access road and RGU 31-30-198 well pad and access road: 1. A paleontological inventory of the proposed location must be completed and submitted to the BLM with any recommended mitigation prior to the initiation of construction.

2. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing paleontological sites, or for collecting fossils. If fossil materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear to be of noteworthy scientific interest
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not feasible)

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines

for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

REALTY AUTHORIZATIONS

Affected Environment: The proposed action will require a right-of-way for an access road to the RGU 31-30-198 well. The RGU 32-4-298 will have to be moved due to being located next to the CSU study plots (R&PP Lease COC34329); this action will not require a right-of-way since it is all located on lease.

Environmental Consequences of the Proposed Action: The proposed action will be for approximately 362 feet off-lease with a width of 35 feet encompassing 0.29 acres more or less.

Environmental Consequences of the No Action Alternative: None.

Mitigation: The Surface Use Plan for the RGU 31-30-198 will be incorporated in and made a part of the amendment for William's existing right-of-way COC67964.

RECREATION

Affected Environment: The proposed action occurs within the White River Extensive Recreation Management Area (ERMA). BLM custodially manages the ERMA to provide for unstructured recreation activities such as hunting, dispersed camping, hiking, horseback riding, wildlife viewing and off-highway vehicle use.

The project area has been delineated a Recreation Opportunity Spectrum (ROS) class of Roaded Natural (RN). RN physical and social recreation setting may have modifications which range from being easily noticed to strongly dominant to observers within the area. However, from sensitive travel routes and use areas these alterations would remain unnoticed or visually subordinate. There is strong evidence of designed roads and/or highways. Structures are generally scattered, remaining visually subordinate or unnoticed to the sensitive travel route observer. Structures may include utility corridors, microwave installations and so on. Frequency of contact is moderate to high on roads and low to moderate on trails and away from roads. RN recreation experience is characterized by a moderate probability of isolation from the sights and sounds of humans that offers an environment that offers challenge and risk.

Environmental Consequences of the Proposed Action: The public will lose approximately 6 acres of dispersed recreation potential while wells are in operation. The public will most likely not recreate in the vicinity of these facilities and will be dispersed elsewhere. If action coincides with hunting seasons (September through November) it will most likely disrupt the experience sought by those recreationists.

With the introduction of new well pads and roads, an increase of traffic could be expected increasing the likihood of human interactions, the sights and sounds associated with the human environment and a less naturally appearing environment.

Environmental Consequences of the No Action Alternative: No loss of dispersed recreation potential and no impact to hunting recreationists.

Mitigation: None.

VISUAL RESOURCES

Affected Environment: The proposed actions are located in an area with a VRM III classification. The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

Environmental Consequences of the Proposed Action: The proposed actions for both well pads are located on sagebrush flats with pinyon/juniper stands in the background. The nearest paved road that would be traveled by a casual observer would be RBC 5 (Piceance Creek Road), which is 5+ miles distance and neither proposed action would be visible from this road. A gravel road (RBC 24) exists within < 1/8 mile from each location. The proposed actions would be visible from this road, but traffic is comprised mostly of energy development related activity, with seasonal fall traffic due to big game hunting seasons, and local ranchers in the area. After the initial drilling process and the drill rig moves off the location, any above ground production facilities should be painted Juniper Green to mimic the background woody vegetation and decrease the attention attracted to the action. The level of change to the characteristic landscape would be less than moderate and the objectives of the VRM III classification would be retained.

Environmental Consequences of the No Action Alternative: There would be no impact.

Mitigation: All permanent (onsite for six [6] months or longer) structures, facilities and equipment placed onsite shall be painted Juniper Green (Munsell Soil Color Chart) or equivalent within six months of installation.

CUMULATIVE IMPACTS SUMMARY: This action is consistent with the scope of impacts addressed in the White River ROD/RMP. The cumulative impacts of these activities are addressed in the White River ROD/RMP for each resource value that would be affected by the proposed action.

REFERENCES CITED:

Conner, Carl E.

2005 Class III Cultural Resources Inventory for Ten Proposed RGU Well Locations and Short Access Routes in Rio Blanco County for Williams Production RMT (Fed. RGU Well Nos.: 23-6-297, 13-36-198, 24-29-198, RGU 31-30-198, 31-32-198, 22-35-198, 44-1-298, 12-10-298D, 42-11-298). Grand River Institute, Grand Junction, Colorado.

Conner, Carl E., Barbara J. Davenport, Dana Archuleta and Jim Conner

2005 Class III Cultural Resources Inventory Report for Three Proposed Well Locations and Three Pipeline Segments in Rio Blanco County, Colorado for Williams Production Company RMT. Grand River Institute, Grand Junction, Colorado.

Tweto, Ogden

1979 Geologic Map of Colorado. United States Geologic Survey, Department of the Interior, Reston, Virginia.

PERSONS / AGENCIES CONSULTED: None

INTERDISCIPLINARY REVIEW:

Name	Title	Area of Responsibility
Nate Dieterich	Hydrologist	Air Quality
Tamara Meagley	Natural Resource Specialist	Areas of Critical Environmental Concern, Threatened and Endangered Plant Species
Michael Selle	Archeologist	Cultural Resources Paleontological Resources
Mark Hafkenschiel	Rangeland Management Specialist	Invasive, Non-Native Species, Vegetation, Rangeland Management
Brett Smithers	Natural Resource Specialist-Wildlife Biologist	Migratory Birds, Threatened, Endangered and Sensitive Animal Species, Wildlife, Wildlife Terrestrial and Aquatic
Melissa Kindall	Hazmat Collateral	Wastes, Hazardous or Solid
Nate Dieterich	Hydrologist	Water Quality, Surface and Ground Hydrology and Water Rights
Brett Smithers	Natural Resource Specialist-Wildlife Biologist	Wetlands and Riparian Zones
Chris Ham	Outdoor Recreation Planner	Wilderness, Access and Transportation, Recreation
Nate Dieterich	Hydrologist	Soils
Ken Holsinger	Natural Resource Specialist	Fire Management
Robert Fowler	Forester	Forest Management
Paul Daggett	Mining Engineer	Geology and Minerals
Penny Brown	Realty Specialist	Realty Authorizations
Keith Whitaker	Natural Resource Specialist	Visual Resources
Valerie Dobrich	Natural Resource Specialist	Wild Horses

Finding of No Significant Impact/Decision Record (FONSI/DR)

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FINDING OF NO SIGNIFICANT IMPACT (FONSI)/RATIONALE: The environmental assessment and analyzing the environmental effects of the proposed action have been reviewed. The approved mitigation measures (listed below) result in a Finding of No Significant Impact on the human environment. Therefore, an environmental impact statement is not necessary to further analyze the environmental effects of the proposed action.

DECISION/RATIONALE: It is my decision to approve the proposed action with the mitigation measures listed below. The proposed actions are in concert with the objectives of the White River ROD/RMP in that they would allow development of federal oil and gas resources in a manner that provides reasonable protection for other resource values. Protection for other resource values will be assured by implementation of the mitigation measures described below and attached to the APD as Conditions of Approval

MITIGATION MEASURES:

1. The operator will be responsible for complying with all local, state, and federal air quality regulations as well as providing documentation to the BLM that they have done so. To minimize production of fugitive dust from access roads and well pads, vehicle speeds must not exceed 15 mph *or* dust plume must not be visible at appropriate designated speeds for road design. The application of a dust suppressant (e.g. water or "Dust Stop") will be required during dry periods when dust plumes are visible at speeds less than or equal to 15 mph. Surfacing the roadway with gravels will also help mitigate fugitive dust production.

2. All soils stockpiled for extended periods of time (e.g. stockpiles associated with pad construction) will be covered with a biodegradable fabric (e.g. jute netting) and seeded with the appropriate seed mixture as outlined in the vegetation section of this document. Stockpiled soils associated with road construction will be wetted to mitigate fugitive dust production.

3. RGU 32-4-298 and RGU 31-30-198 well pad and access road: 1.The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear eligible for the National Register of Historic Places

- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary)
- a timeframe for the AO to complete an expedited review under 36 CFR 800-11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

4. Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the AO, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

5. Promptly revegetate all disturbed areas not necessary for production including pad and access road cut and fill slopes with Native Seed mix #2 (see Vegetation). The operator will be required to monitor the project area for a minimum of three years post disturbance and eradicate all noxious and invasive species which occur on site using materials and methods approved in advance by the Authorized Officer.

6. It will be the responsibility of the operator to prevent use by migratory birds of reserve pits that store or are expected to store fluids which may pose a risk to such birds (e.g., migratory waterfowl, shorebirds, wading birds and raptors) during completion and after completion activities have ceased. Methods may include netting, the use of bird-balls, or other alternative methods that effectively prevent use and that meet BLM approval. It will be the responsibility of the operator to notify the BLM of the method that will be used to prevent use two weeks prior to when completion activities are expected to begin. The BLM approved method will be applied within 24 hours after completion activities have begun. All lethal and non-lethal events that involve migratory birds will be reported to the Petroleum Engineer Technician immediately.

7. The applicant shall be required to collect and properly dispose of any solid wastes generated by the proposed actions.

8. All road and well pad construction must strictly adhere to “Gold Book” surface operating standards for oil and gas exploration and development. A copy of the “Gold Book” can be obtained at the WRFO.

9. Corrugated Metal Pipes (CMPs) are not recommended on slopes less than 10% and will NOT be used as drainage relief structures for stream crossings/gullies or to drain inside drain ditches on slopes less than 3%. Based on the nature of the affected soils, drain dips will be utilized in place of CMPs in these locations.

10. To mitigate contamination of local ground water, environmentally unfriendly substances (e.g. diesel) must not be allowed to infiltrate soils. The use of impermeable matting under equipment is suggested to intercept such contaminants prior to contacting soils.

11. Furthermore, all pits must be lined and all wastes associated with construction and drilling will be properly treated and disposed of. Finally, aquifers beneficial for human consumption and livestock encountered during the drilling process must be properly isolated to reduce potential for contamination.

12. Yellow Creek (segment 13b) has been identified as a perennial stream NOT meeting water quality standards set by the state. However, with suggested mitigation water quality in Yellow Creek will not be deteriorated as a result of the proposed actions.

13. Energy dissipaters such as large gravels/small cobbles will be used at culvert and drainage dip outlets to minimize additional erosion. To mitigate water being channelized down the roadway, all activity must stop when soils or road surfaces become saturated to a depth of three inches. Mud blading will be prohibited in attempts to reduce further soil displacement. Any upgrades or damage to the existing ROW will be upgraded or repaired at the expense of the operator. In addition, to mitigate surface erosion at well pads, silt fences will be utilized down gradient of stockpiled soils on slopes greater than 5 percent.

14. To mitigate contamination of soils, environmentally unfriendly substances (e.g. diesel) must not be allowed to contact soils. The use of impermeable matting under equipment is suggested to intercept such contaminants prior to contacting soils.

15. Complete reclamation will follow abandonment of well pads and access roads. Access roads and well pads will be recontoured, flow deflectors and sediment traps (woody debris) will be evenly redistributed over all disturbed areas, and 100% of disturbed surfaces will be revegetated with the appropriate seed mixture as outlined in the vegetation section of this document.

16. Promptly revegetate all disturbed areas not necessary for production including pad and access road cut and fill slopes with Native Seed mix #2:

Seed Mix #	Species (Variety)	Lbs. PLS per Acre	Ecological Sites
2	Western wheatgrass (Rosanna) Indian ricegrass (Nezpar) Bluebunch wheatgrass (Whitmar) Thickspike wheatgrass (Critana) Green needlegrass (Lodorm) Globemallow	2 1 2 2 1 0.5	Deep Loam, Loamy 10"-14", Loamy Breaks, Loamy Slopes, Rolling Loam, Valley Bench

Seed mixture rates are Pure Live Seed (PLS) pounds per acre. Drill seeding is the recommended method of application. If seed is broadcast, the seeding rate will be doubled.

17. If construction/development occurs between April 15 and November 15, the operator will be required to water or surface access roads to reduce airborne dust and damage to roadside vegetation communities.

18. Revegetation measures will commence immediately after construction/recontouring. In no case will revegetation be postponed until the following year.

19. The sodium lease holders shall be notified by the operator of the plans to drill these wells prior to the commencement of surface disturbing act ivies.

20. To prove ownership of any aquifer contamination or influence a fluorescent dye other than Rhodamin WT, should be added to all drilling fluids used through the Green River formation.

21. Drilling fluid should be sampled and analyzed for pH and conductivity every 100 feet from surface to 100 feet below the Dissolution surface. Williams should document fluid losses during drilling operations through the Green River Formation. The analysis of the fluid samples and fluid loss documentation will be supplied to the BLM Meeker office within 30 days of drilling.

22. A paleontological inventory of the proposed location must be completed and submitted to the BLM with any recommended mitigation prior to the initiation of construction.

23. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing paleontological sites, or for collecting fossils. If fossil materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear to be of noteworthy scientific interest
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not feasible)

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

24. The Surface Use Plan for the RGU 31-30-198 will be incorporated in and made a part of the amendment for William's existing right-of-way COC67964.

25. All permanent (onsite for six [6] months or longer) structures, facilities and equipment placed onsite shall be painted Juniper Green (Munsell Soil Color Chart) or equivalent within six months of installation.

NAME OF PREPARER: Brett Smithers

NAME OF ENVIRONMENTAL COORDINATOR: Caroline Hollowed

SIGNATURE OF AUTHORIZED OFFICIAL: Kent E. Walter
Field Manager

DATE SIGNED: 12/14/05

ATTACHMENTS: Location map of the proposed action

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Location of Proposed Action
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